

LINE LEVEL AIR GAPS

ABSTRACT OF THE DISCLOSURE

In a multilevel microelectronic integrated circuit, air comprises permanent line level dielectric and ultra low-K materials are via level dielectric. The air is supplied to line level subsequent to removal of sacrificial material by clean thermal decomposition and assisted diffusion of byproducts through porosities in the IC structure. Optionally, air is also included within porosities in the via level dielectric. By incorporating air to the extent produced in the invention, intralevel and interlevel dielectric values are minimized.